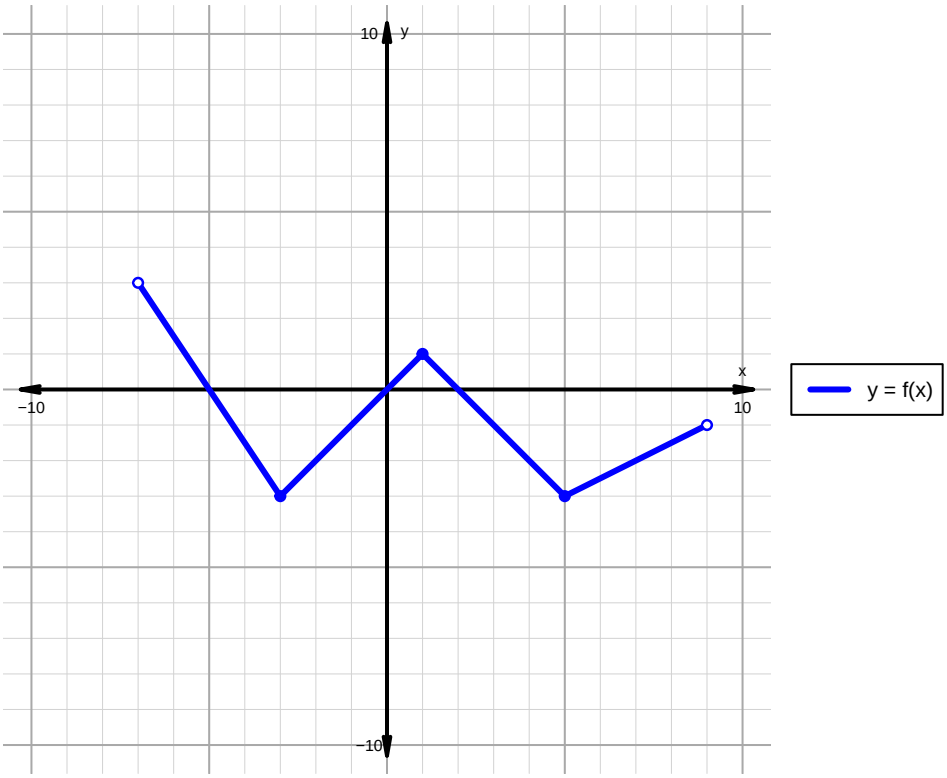
Name: Date:

Intervals, Transformations, and Slope Solution (version 127)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-5)\cup(0,2)$
Negative	$(-5,0)\cup(2,9)$
Increasing	$(-3,1)\cup(5,9)$
Decreasing	$(-7,-3)\cup(1,5)$
Domain	$(-7,9)$
Range	$(-3,3)$

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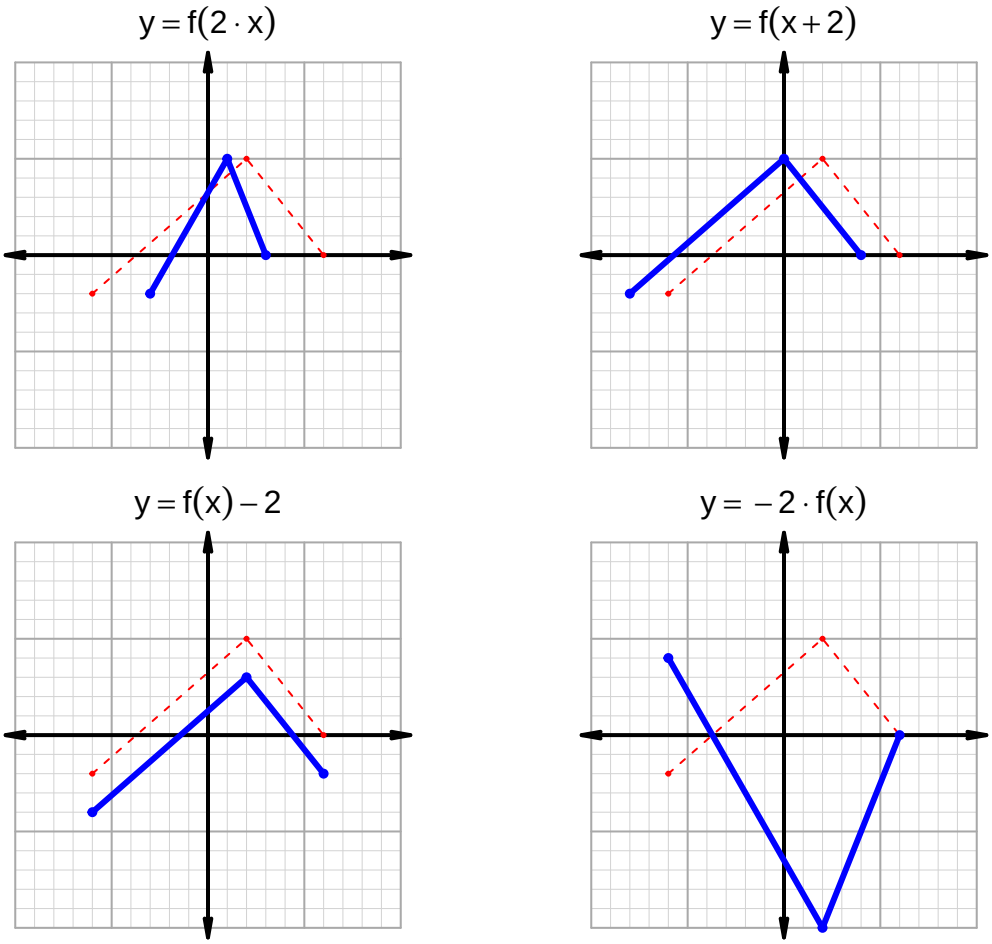
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 36$ and $x_2 = 71$. Express your answer as a reduced fraction.

x	$g(x)$
36	43
43	71
48	36
71	48

$\frac{f(71)-f(36)}{71-36} = \frac{48-43}{71-36} = \frac{5}{35}$

The greatest common factor of 5 and 35 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{7}$$